

**University of Technology, Sydney
School of Computing Science
Master of Science (Computing)**

Combining Educational Aspects with New Technology:

Teaching Basic Statistics Using Hypermedia.

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...Namer of a thousand names, maker of meaning, transformer of the world... your parents and the parents of your parents continue in you. You are not a fallen meteor, but a brilliant arrow launched toward the skies. You are the meaning of the world, and when you clarify your meaning you illuminate the earth. When you lose your meaning, the earth becomes darkened and the abyss opens.

From "The Internal Landscape", SILO

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Abstract

The increasing popularity and rapid development of the Internet and specifically the World-Wide Web in recent years has led to an exponential growth of users around the world in many different application areas. Following this growing trend, many eager educators have also embraced this new technology and have begun to use it as a tool in delivering education. A plethora of applications has already been developed in an attempt to implement educational content in this way. A general concern for many researchers is that most of these applications are not efficient in delivering educational outcomes and fail to achieve their educational goal.

In the present project we propose that the present failure to deliver educational outcomes in an efficient way has its origins in the lack of concern and focus of developers on modern learning theory. Therefore, in this work we establish the foundations in terms of an interdisciplinary contribution from areas such as, educational learning theory, human-computer interaction and web design guidelines for the design and implementation of web pages aimed at facilitating the teaching and tutoring of basic statistics concepts.

As a result of this work, a specific set of learning theories were researched and analyzed, the basic ideas of Human-Computer Interaction (HCI) were explored and a set of appropriate principles from HCI were chosen. Furthermore, a selected group of Web design guidelines were researched, studied and selected to ensure that the final product contributes to the efficient delivery of subject content and effective achievement of learning outcomes. In addition, a number of parallels were formulated and discussed between the different areas of research. The establishment of a series of combined principles will not only contribute to the aims of the present project but also to further projects initiated by the Department of Econometrics at The University Sydney.